

With respect to the above identified Office Action, please amend the application as follows.

Please amend the Title by deleting "Technique for Measuring the Thickness of Metal Using Permeability Signatures" and replacing it with "Non-Contacting Apparatus and Method for Measurement of Ferromagnetic Metal Thickness."

IN THE SPECIFICATION

Please amend the specification on page 13, beginning at line 20, as follows:  
"FIG. 9 illustrates an embodiment of the apparatus of the present invention particularly showing the relationship ~~between~~ among the component for generating a magnetic flux for saturation, the transmitter generating an oscillating flux, ~~and~~ the receiver coil for receiving the changed signal and the material to be measured."

Please further amend the specification on page 14, by inserting the following sentence after the text "... and a thickness L **960**." "The space or gap between the magnetic transparency generator **500** and the material **100** is illustrated by G **950**."

Attached to this response are "marked up" paragraphs showing the modifications of text and "clean" revised paragraphs.

IN THE CLAIMS

In response to the Examiner's rejections, please amend claims 1, 5 and 6 as indicated:

1. (Amended) A method for determining the thickness of a ferromagnetic material having a known conductivity and permeability comprising the steps of:

(a) engaging the ferromagnetic material with an electrically isolated constant signal that is an electromagnetic signal of constant frequency and

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amplitude with the ferromagnetic material for inducing a changed signal within the ferromagnetic material,

- (b) generating a stepped saturation signal over a range of currents that is electrically isolated from the ferromagnetic material for engagements with the ferromagnetic material,
- (c) detecting by electrically isolated means the changed signal as the saturation signal is varied over the range of currents,
- (d) determining the relationship between the changed signal and the stepped saturation signal, and
- (e) evaluating the thickness of the material based upon the relationship between the charged signal and the stepped saturation signal.

5. (Amended) An apparatus for determining the thickness of a ferromagnetic material having known conductivity and permeability ~~comprising~~ while said apparatus is electrically isolated from the material comprising:

- (a) a transmitter electrically isolated from the ferromagnetic material for engaging the ferromagnetic material with a constant signal that is an electromagnetic signal having constant frequency and amplitude with the ferromagnetic material for ~~creating~~ inducing a changed signal within the ferromagnetic material,
- (b) a saturation device electrically isolated from the ferromagnetic material for generating a saturation signal over a range of currents for engagement with the ferromagnetic material,
- (c) a receiver electrically isolated from the ferromagnetic material for detecting the changed signal as the saturation signal is varied over the range of currents, such that the relationship between the changed signal and the saturation signal is determined, and the thickness of the material based upon the relationship is determined.